

MOSCOW A GUIDE TO SOVIET MODERNEST ARCHITECTURE 1 Study Guide

moscow a guide to soviet modernest architecture 1 is an essential journey into the heart of Russia's architectural evolution, showcasing the innovative and often revolutionary designs that defined the Soviet era. This guide explores the key features, historical context, and iconic structures of Soviet modernist architecture in Moscow, offering readers an in-depth understanding of this distinctive style that continues to influence contemporary urban landscapes.

Introduction to Soviet Modernist Architecture in Moscow

Soviet modernist architecture emerged in the mid-20th century as part of a broader movement to create a new socialist aesthetic. It was characterized by functionality, simplicity, and the use of modern materials, reflecting the ideals of progress, equality, and technological advancement promoted by the Soviet government. Moscow, as the capital of the USSR, became a showcase for these architectural ambitions, with numerous projects aimed at transforming the cityscape into a symbol of socialist progress.

Historical Context and Development

The Rise of Modernism in the Soviet Union

In the aftermath of the Russian Revolution of 1917, there was a strong desire to break away from traditional architecture, which was seen as bourgeois and outdated. Modernist principles, emphasizing innovation, efficiency, and new construction techniques, gained prominence. Architects sought to design buildings that were not only functional but also represented the ideological aspirations of the new Soviet state.

Influence of International Modernism

Soviet modernism was influenced by international movements such as Bauhaus, Constructivism, and Brutalism. However, it also incorporated unique Soviet elements, blending utilitarian design with ideological symbolism. This resulted in a distinctive style that balanced aesthetic simplicity with political messaging.

Key Features of Soviet Modernist Architecture

- **Functional Design:** Structures prioritized utility and purpose, often with minimal decorative elements.
- **Use of Modern Materials:** Concrete, glass, steel, and brick were common, enabling innovative construction techniques.
- **Geometric Forms:** Buildings often featured clean lines, geometric shapes, and modular layouts.
- **Monumentality:** Many structures were designed to evoke strength, stability, and the collective spirit.
- **Social Integration:** Architecture aimed to serve the needs of the masses, including communal housing, cultural centers, and administrative buildings.

Iconic Soviet Modernist Structures in Moscow

Moscow boasts numerous exemplary examples of Soviet modernist architecture, each reflecting different aspects of the movement.

The Moscow Palace of Soviets (Never Completed)

Although never finished, the Palace of Soviets remains an iconic symbol of Soviet ambition. Designed to be the tallest building in the world, it was intended as a colossal seat of government. Its proposed design featured a massive column with a statue of Lenin on top, embodying the grandeur and ideological strength of Soviet architecture.

The Narkomfin Building

Constructed between 1928 and 1932, the Narkomfin Building is a pioneering example of communal living architecture. Designed by Moisei Ginzburg and Ignaty Milinis, it features a modernist design with open communal spaces, emphasizing social equality and collective living.

The Luzhniki Administrative Building

Built in the 1960s, this structure exemplifies the brutalist style within Soviet modernism. Its stark concrete facade and geometric form convey functionality and resilience, serving as an administrative hub for one of Moscow's most prominent sports complexes.

Residential Blocks and Microdistricts

Moscow's urban planning during the Soviet era included large-scale residential developments designed to accommodate the growing urban population. Examples include:

- **Khoroshevsky Microdistrict:** Featuring standardized panel houses with functional layouts.

- VDNH District: A showcase of pavilions and exhibition halls with modernist aesthetics.

Architects and Their Contributions

Several architects played pivotal roles in shaping Moscow's modernist landscape.

- **Moisei Ginzburg:** A founder of Constructivism, Ginzburg contributed to early Soviet modernist housing projects.
- **Ivan Zholtovsky:** Known for blending traditional Russian motifs with modern styles.
- **Arkady Mordvinov:** Designed significant administrative and residential buildings.
- **Yefim Goltsblat:** Known for his work on cultural and educational buildings.

Preservation and Modern Adaptations

Many Soviet modernist structures face threats from urban development and neglect. Preservation efforts are ongoing to protect these architectural landmarks, recognizing their importance in Moscow's cultural heritage. Some buildings have been repurposed for modern uses, blending historical design with contemporary functionality.

Challenges in Preservation

- Deterioration of materials like concrete.
- Lack of awareness about their historical significance.
- Urban redevelopment pressures aiming to modernize cityscapes.

Examples of Adaptive Reuse

- Renovated cultural centers now hosting exhibitions and community events.
- Residential buildings updated with modern amenities while retaining their original facades.

Visiting Moscow's Modernist Architecture

For architecture enthusiasts and tourists, exploring Moscow's modernist structures offers a unique perspective on the city's history and ideological evolution.

Guided Tours and Self-Guided Exploration

- Many companies offer guided tours focusing on Soviet architecture.
- Self-guided walks can be planned using maps highlighting key sites.

Best Locations to Explore

- VDNKh Park: Exhibits a wide range of Soviet pavilions and monuments.
- Krasnopresnenskaya Embankment: Features residential blocks and public buildings.
- Moscow City Business District: Modern skyscrapers inspired by Soviet modernist principles.

Conclusion: The Legacy of Soviet Modernist Architecture in Moscow

Moscow's Soviet modernist architecture stands as a testament to a period of bold experimentation and ideological expression. These structures not only reflect the technological and artistic ambitions of their time but also serve as enduring symbols of Russia's complex history. Preserving and studying these buildings offers invaluable insights into the socio-political landscape of the Soviet era and inspires contemporary architecture that bridges the past with the future.

Whether you are an architecture aficionado, a historian, or a curious traveler, exploring Moscow's Soviet modernist architecture provides a fascinating glimpse into a transformative chapter of urban development. As efforts continue to protect and reinterpret these iconic structures, their influence remains vital to understanding Moscow's architectural identity and cultural heritage.

Moscow: A Guide to Soviet Modernist Architecture 1 offers a compelling journey through one of the most distinctive and influential architectural movements of the 20th century. As a city that epitomized Soviet ideals and aspirations, Moscow's modernist structures reflect a blend of ideological symbolism, innovative design, and ambitious urban planning. This guide aims to explore the key elements, notable examples, and historical significance of Soviet modernist architecture in Moscow, providing both enthusiasts and casual visitors with a comprehensive understanding of this fascinating architectural era.

Introduction to Soviet Modernist Architecture in Moscow

Soviet modernist architecture emerged in the post-revolutionary period, particularly from the 1920s through the 1960s, as a response to ideological needs and technological advancements. It aimed to embody the ideals of communism—progress, equality, and collective strength—through bold, functional, and often monumental structures. Moscow, as the political and cultural capital of the USSR, became a showcase for this architectural style, featuring a mix of residential complexes, government buildings, cultural institutions, and public spaces.

The movement was characterized by its emphasis on simplicity, the use of modern materials like

concrete and glass, and innovative forms that broke away from traditional classical and ornate styles. It also sought to create a new urban aesthetic that aligned with socialist ideals, often emphasizing efficiency, functionality, and mass housing.

Historical Context and Development

Understanding Moscow's Soviet modernist architecture requires contextualizing it within the broader socio-political landscape of the USSR. Following the 1917 October Revolution, there was a push to redesign Moscow into a city that reflected Soviet ideals. The early Soviet period embraced avant-garde movements like Constructivism, which heavily influenced modernist architecture.

In the 1930s, Stalin's regime shifted towards more monumental, neoclassical architecture known as Stalinist Empire style, which was more ornate but also incorporated modernist elements. After Stalin's death in 1953, a shift occurred towards more utilitarian and functional designs, culminating in the Khrushchyovka era of the late 1950s and 1960s, characterized by rapid mass housing construction.

Moscow's modernist architecture reflects this evolution, transitioning from avant-garde experimentation to mass-produced housing and infrastructure projects aimed at addressing urban growth and housing shortages.

Key Features of Soviet Modernist Architecture

The style's defining characteristics include:

- Functionalism: Buildings designed primarily for their purpose, with minimal decorative elements.
- Use of Modern Materials: Extensive application of concrete, glass, and steel.
- Geometric Forms: Emphasis on clean lines, grids, and simple shapes—rectangles, cylinders, and triangles.
- Monumentality: Structures often appear grand and imposing, symbolizing state power and progress.
- Standardization and Repetition: Especially in residential blocks, with prefabricated panels to facilitate mass production.
- Integration with Urban Planning: Designed to serve the needs of a rapidly growing urban population, often with large-scale housing complexes and public amenities.

Notable Examples of Soviet Modernist Architecture in Moscow

Moscow's landscape is dotted with numerous iconic modernist structures that exemplify the movement's principles. Here are some of the most significant:

1. The House on the Embankment

While not purely modernist, this residential building from the 1920s reflects early experimental Soviet architecture. It's notable for its integration into urban fabric and innovative use of space, symbolizing the Soviet approach to social housing.

2. The ZIL Residential Complexes

Developed during the Khrushchyovka period, these sprawling panel-block apartment complexes aimed to provide affordable housing for millions. Features include:

- Pros:
 - Rapid construction facilitated by prefabrication
 - Functional layouts catering to urban needs
 - Significant contribution to alleviating housing shortages
- Cons:
 - Often criticized for bland design and lack of aesthetic appeal
 - Limited natural light and ventilation in some units
 - Uniformity leading to monotonous cityscapes

3. The Moscow State University Main Building

Although primarily Stalinist Empire style, its towering silhouette and monumental design influenced modernist developments. It remains a symbol of Soviet architectural ambition.

4. The Soviet Pavilion at VDNH (Vystavka dostizheniy narodnogo khozyaystva)

Built in 1959, this pavilion showcases the use of concrete and glass, with a distinctive curved roof and open interior spaces. It exemplifies modernist principles applied to exhibition architecture.

5. The Worker and Kolkhoz Woman

Designed by Vera Mukhina, this colossal sculpture embodies socialist ideals and employs modernist form and materials, exemplifying the integration of architecture and sculpture.

Urban Planning and Public Spaces

Moscow's modernist architecture is also evident in its urban planning projects, which aimed to

create functional, accessible public spaces. Notable examples include:

- Sokolniki Park Redevelopment: Features modernist pavilions and pathways designed for leisure and community gathering.
- Khrushchyovka Districts: Large-scale residential neighborhoods with integrated schools, clinics, and shopping centers, emphasizing the ideal of self-sufficient communities.
- Moscow Metro Stations: Many stations from the 1950s and 1960s showcase modernist aesthetics?clean lines, geometric motifs, and efficient use of space?serving as moving artworks.

Preservation and Modern Challenges

While some modernist structures are celebrated for their architectural significance, many face threats from urban development pressures, neglect, or demolition. Preservation efforts are ongoing, aiming to protect these buildings as cultural heritage.

Pros of Preservation:

- Maintains architectural diversity
- Provides cultural and historical insights
- Promotes tourism and education

Cons/Challenges:

- High restoration costs
- Modern safety standards may conflict with original designs
- Urban development priorities may favor new projects over preservation

Conclusion: The Legacy of Soviet Modernist Architecture in Moscow

Moscow?s Soviet modernist architecture stands as a testament to a period of rapid change, ideological expression, and technological innovation. While it is often criticized for its utilitarian aesthetics, it also represents a bold vision of a future shaped by collective effort and modern design principles. Today, these structures continue to influence contemporary architecture and urban planning in Moscow, serving as reminders of the city?s layered history.

For visitors and architecture enthusiasts, exploring these buildings offers a unique glimpse into the Soviet era?s aspirations, challenges, and achievements. Whether through the massive residential complexes that housed millions or the striking public monuments, Moscow?s modernist architecture

remains a vital chapter of its cultural and architectural narrative.

In summary, "Moscow: A Guide to Soviet Modernist Architecture 1" provides an in-depth examination of a transformative architectural movement that has left an indelible mark on the city's skyline and urban identity. It underscores the importance of preserving these structures as cultural artifacts and celebrates their role in shaping Moscow's historical and aesthetic landscape.

Question What are the key features of Soviet modernist architecture in Moscow? Soviet modernist architecture in Moscow is characterized by its emphasis on functional design, minimal ornamentation, use of innovative materials like concrete and glass, and a focus on large-scale, geometric forms that symbolize progress and industrial strength. Which famous landmarks in Moscow exemplify Soviet modernist architecture? Notable landmarks include the Palace of the Soviets (never completed), the Moscow Metro stations like Kropotkinskaya and Mayakovskaya, and the VDNH pavilions, all showcasing the bold, geometric, and functional aesthetic of Soviet modernism. How does Soviet modernist architecture differ from Stalinist architecture in Moscow? Soviet modernist architecture emphasizes simplicity, functionality, and innovation, whereas Stalinist architecture features grandiose, ornate designs with classical elements. Modernism rejected the elaborate ornamentation of Stalinist styles in favor of streamlined forms. Are there any UNESCO World Heritage sites related to Soviet modernist architecture in Moscow? While specific Soviet modernist buildings in Moscow are not individually designated as UNESCO sites, the Moscow Kremlin and Red Square are UNESCO World Heritage sites that include examples of architecture from various periods, including some modernist structures. Can you visit and tour Soviet modernist architectural sites in Moscow today? Yes, many Soviet modernist buildings such as metro stations and pavilions are open to the public. Guided tours and architectural walks often include these sites, highlighting their historical and design significance. What is the significance of the Moscow Metro in Soviet modernist architecture? The Moscow Metro is renowned for its stunning modernist station designs, featuring elaborate mosaics, sculptures, and innovative use of space, making it a symbol of Soviet architectural ingenuity and modernist aesthetics. How has Soviet modernist architecture influenced contemporary Moscow architecture? Modern Moscow continues to be influenced by Soviet modernism through the adoption of clean lines, functional design principles, and the integration of historic modernist buildings into the city's evolving skyline. What challenges are faced in preserving Soviet modernist architecture in Moscow? Preservation challenges include urban development pressures, neglect, and the perception of these structures as outdated. Efforts are ongoing to restore and repurpose these buildings as part of Moscow's architectural heritage. Where can I find a comprehensive guide to Soviet modernist architecture in Moscow? Several books, online resources, and guided tours focus on Soviet modernist architecture in Moscow, such as 'Moscow Modernist Architecture' guides and architecture-focused travel blogs that provide detailed insights and maps.

Related keywords: Moscow, Soviet modernist architecture, architectural guide, 20th-century design, Soviet Union buildings, Brutalism, Constructivism, urban planning, architectural history,

Russian architecture

Architecture a very short introduction very short

architecture a very short introduction very short is a concise way to understand the fundamental principles and significance of architecture as an art and science of designing spaces. Architecture shapes our environment, influences our daily lives, and reflects cultural identities across history. In this article, we will explore the key aspects of architecture, its history, types, elements, and its impact on society.

Understanding Architecture: A Brief Overview

What Is Architecture?

Architecture is the art and science of designing and constructing buildings and other physical structures. It combines creativity, technical skill, and practical considerations to create functional, safe, and aesthetically pleasing environments. Architecture is not only about shelter but also about creating spaces that inspire, communicate cultural values, and improve quality of life.

The Importance of Architecture

Architectural designs influence how people interact with their surroundings. Well-designed architecture enhances safety, efficiency, and comfort while also serving as a cultural expression. Iconic structures often become symbols of identity and pride for communities and nations.

The History of Architecture

Ancient Civilizations

Early architecture dates back to ancient civilizations such as Egypt, Mesopotamia, Greece, and Rome. These societies developed foundational structures like pyramids, temples, aqueducts, and amphitheaters, showcasing technological innovation and cultural priorities.

Medieval Architecture

Medieval architecture features castles, cathedrals, and monasteries characterized by Gothic and Romanesque styles. These structures emphasized grandeur, religious symbolism, and defensive features.

Renaissance and Modern Periods

The Renaissance revived classical principles, emphasizing symmetry, proportion, and harmony. The modern era introduced new materials like steel and concrete, leading to innovative designs such as skyscrapers and contemporary architecture.

Contemporary Architecture

Today's architecture incorporates sustainable practices, smart technology, and minimalist aesthetics. It aims to balance environmental responsibility with functionality and aesthetic appeal.

Types of Architecture

Residential Architecture

Focuses on designing homes, apartments, and housing communities. Priorities include comfort, privacy, and functionality.

Commercial Architecture

Covers office buildings, shopping malls, hotels, and other business-related structures. These designs often emphasize accessibility, branding, and efficiency.

Industrial Architecture

Designs factories, warehouses, and plants. These structures prioritize durability, safety, and operational flow.

Institutional and Public Architecture

Includes schools, hospitals, government buildings, and cultural centers. The focus is on capacity, safety, and community service.

Landscape Architecture

Involves designing outdoor spaces such as parks, gardens, and urban plazas, integrating natural elements with built environments.

Key Elements of Architectural Design

Form and Function

The fundamental principle that architecture should be both aesthetically pleasing (form) and serve its intended purpose (function).

Space and Volume

The arrangement of interior and exterior spaces to facilitate movement, interaction, and comfort.

Materials and Construction

Choice of building materials influences durability, appearance, and sustainability.

Lighting and Ventilation

Designing for natural and artificial lighting, along with proper airflow, to enhance comfort and energy efficiency.

Structural Integrity

Ensuring safety and stability through sound engineering principles.

Architectural Styles and Movements

Classical Architecture

Features symmetry, columns, and elaborate ornamentation inspired by Greek and Roman designs.

Gothic Architecture

Known for pointed arches, ribbed vaults, flying buttresses, and stained glass windows.

Modernism

Emphasizes minimalism, functionalism, and the use of modern materials like steel and glass.

Postmodernism

Combines traditional elements with contemporary design, often with playful or ironic touches.

Sustainable Architecture

Focuses on environmentally friendly design practices, energy efficiency, and use of renewable

materials.

The Role of Technology in Modern Architecture

Building Information Modeling (BIM)

A digital process that improves accuracy and collaboration during design and construction.

Parametric Design

Uses algorithms to generate complex forms and optimize performance.

Smart Buildings

Incorporate sensors, automation, and IoT technology to improve energy efficiency and user experience.

Green Building Materials

Use of eco-friendly, recycled, or low-impact materials to reduce environmental footprint.

The Impact of Architecture on Society

Economic Impact

Architectural projects generate jobs, attract tourism, and contribute to local economies.

Cultural Significance

Buildings often reflect cultural values, history, and identity, fostering community pride.

Environmental Responsibility

Sustainable architecture helps mitigate climate change through energy efficiency and green practices.

Urban Development and Planning

Good architecture promotes organized, accessible, and vibrant urban environments.

Challenges and Future Trends in Architecture

Climate Change and Sustainability

Architects are increasingly adopting eco-friendly designs to combat global warming.

Technological Integration

Advances in digital fabrication, AI, and robotics are transforming how structures are conceived and built.

Adaptive and Resilient Design

Creating buildings that can withstand natural disasters and adapt to changing conditions.

Inclusive Architecture

Designing spaces that are accessible and welcoming to all individuals, regardless of ability or background.

Conclusion

Architecture, though briefly introduced here, is a vital discipline that combines artistry, science, and social responsibility. It influences our surroundings profoundly, from iconic monuments to everyday homes. As technology advances and societal needs evolve, architecture continues to innovate, striving for sustainability, resilience, and inclusiveness. Understanding its principles and history enriches our appreciation for the built environment and inspires future generations to design thoughtful, impactful spaces.

Architecture: A Very Short Introduction

Architecture is often regarded as both an art and a science—an essential discipline that shapes the spaces where we live, work, and interact. It influences our environment, reflects cultural values, and showcases technological innovation. Despite its significance, many people seek a concise understanding of what architecture truly entails. This guide offers a very short introduction to architecture, exploring its fundamental concepts, history, key elements, and contemporary trends.

What is Architecture?

At its core, architecture is the practice of designing and constructing buildings and other physical structures. It goes beyond mere construction; it embodies creativity, functionality, cultural expression, and technical expertise. Architecture is about solving spatial problems—creating environments that are safe, comfortable, and inspiring.

The Dual Nature of Architecture

- **Artistic Aspect:** Architecture expresses aesthetic values, cultural identity, and artistic vision. It can evoke emotion, symbolize power, or reflect traditions.
- **Technical Aspect:** It involves engineering principles, material science, environmental considerations, and sustainability. Architects must ensure their designs are structurally sound and functional.

A Brief History of Architecture

Understanding architecture's evolution helps clarify its significance and the forces shaping it today.

Ancient Beginnings

- **Prehistoric Structures:** Early humans built shelters from natural materials like caves and simple huts.
- **Ancient Civilizations:** The Egyptians, Greeks, and Romans developed monumental architecture?pyramids, temples, aqueducts?demonstrating technological innovation and cultural values.

Medieval to Renaissance Era

- **Gothic Cathedrals:** Characterized by verticality, stained glass, and intricate stonework.
- **Renaissance:** Revival of classical ideals?symmetry, proportion, harmony?leading to iconic structures like Brunelleschi?s Dome.

Modern Architecture

- **Industrial Revolution:** New materials (steel, glass) and technologies revolutionized design possibilities.
- **20th Century:** Movements like Modernism and Postmodernism challenged traditional aesthetics, emphasizing function, minimalism, and diversity.

Contemporary Trends

- **Emphasis on sustainability, smart buildings, and adaptive reuse.**

- Integration of digital tools like Building Information Modeling (BIM).

Key Elements of Architecture

Understanding architecture involves recognizing its core components:

Form and Space

- Form: The shape and configuration of a building.
- Space: The interior and exterior environments designed for human activity.

Function

Designs are driven by their purpose?residential, commercial, cultural, or recreational.

Materials

Choices range from traditional (stone, wood) to modern (concrete, steel, glass), affecting aesthetics, durability, and sustainability.

Light and Color

Lighting influences mood, functionality, and perception of space. Color adds emotional and visual impact.

Structural Systems

Frameworks that support buildings include:

- Load-bearing walls
- Framing systems (steel, timber)
- Innovative solutions (tensile structures)

Context and Environment

Designs respond to their surroundings?climate, landscape, urban fabric?blending or contrasting with existing environments.

The Role of an Architect

An architect is a professional responsible for the conception, design, and oversight of building projects. Their role includes:

- Understanding client needs and site conditions
- Developing design concepts
- Creating detailed drawings and models
- Coordinating with engineers, contractors, and stakeholders
- Ensuring compliance with regulations and standards

Modern Architectural Movements and Styles

While architecture is diverse, some notable styles include:

- Modernism: Emphasizes simplicity, functionality, and the absence of ornament.
- Postmodernism: Reacts against modernism, embracing eclecticism and symbolism.
- Brutalism: Features raw concrete and bold, geometric forms.
- Deconstructivism: Disrupts traditional forms to create fragmented and dynamic structures.
- Sustainable Architecture: Focuses on eco-friendly practices, energy efficiency, and materials.

Contemporary Topics in Architecture

Sustainability and Green Building

- Use of renewable energy sources
- Incorporation of green roofs and walls
- Passive design strategies for energy conservation

Smart Buildings and Technology

- Integration of IoT devices for automation
- Building management systems for efficiency
- Use of digital modeling and visualization tools

Urban Design and Public Spaces

- Creating inclusive, accessible urban environments

- Revitalization of neighborhoods and public parks
- Addressing urban challenges like congestion and pollution

The Impact of Architecture on Society

Architecture shapes societal values and behaviors. Well-designed spaces promote health, community, and cultural identity. Conversely, poorly planned structures can lead to social issues and environmental degradation.

Cultural Reflection

Buildings often symbolize cultural identity, history, and aspirations.

Economic Influence

Architectural innovation can boost tourism, property values, and local economies.

Environmental Responsibility

Sustainable design reduces carbon footprint and conserves resources.

Final Thoughts

While this very short introduction touches on the essentials, architecture is a vast field that intertwines creativity, science, and societal values. Every structure tells a story about its creators, its users, and the times it was built in. Whether ancient or modern, architecture remains a vital part of our human experience, shaping the world around us in profound ways.

Remember: architecture is not just about buildings; it's about creating environments that inspire, protect, and serve humanity—an ongoing dialogue between form, function, and environment.

Question What is the main focus of 'Architecture: A Very Short Introduction'? It provides a concise overview of architecture's history, principles, and significance in society. Who is the author of 'Architecture: A Very Short Introduction'? The book is authored by Andrew Ballantyne. Why is 'Architecture: A Very Short Introduction' considered a good starting point? Because it offers a brief yet comprehensive overview suitable for beginners and those interested in architecture. What topics are covered in this book? It covers architectural history, design principles, urban planning, and the cultural impact of architecture. Is 'Architecture: A Very Short Introduction' suitable for non-experts? Yes, it is written in an accessible manner, making complex concepts understandable for general readers. How does the book address modern architectural trends? It discusses contemporary styles, innovations, and the evolving role of architecture in society. Can this book help someone pursuing a

career in architecture? Yes, it provides foundational knowledge that can enhance understanding and inspire further study in the field.

Related keywords: architecture, introduction, brief, overview, design, structure, building, urban planning, history, fundamentals

Read the full article online: [Architecture a very short introduction very short](#)